

REMARKS

Applicants respectfully request reconsideration of the present U.S. patent application. Claims 1-33 stand rejected under 35 U.S.C. § 103. Claims 1, 10, 11, 15, 20 and 29 have been amended. No claims have been canceled or added. Therefore, claims 1-33 remain pending.

Claim Rejections - 35 U.S.C. § 103

Rejections of Claims 1-8, 10 and 20-27 based on *Forrest* and *Razeghi*

Claims 1-8, 10 and 20-27 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,479,032 issued to Forrest et al. (*Forrest*) in view of U.S. Patent No. 6,420,728 issued to Razeghi (*Razeghi*). For at least the reasons set forth below, Applicants submit that claims 1-8, 10 and 20-27 are not rendered obvious by *Forrest* in view of *Razeghi*.

Claim 1 recites the following:

an undoped substrate.

Claim 20 recites a similar limitation.

Forrest discloses a multi-wavelength infrared detector. See Abstract; col. 1, lines 62-63. The infrared detector includes an InP substrate on which absorption layers, plus buffer layers between the absorption layers, are grown. See col. 2, line 66 - col. 3, line 3. The InP substrate in *Forrest* is doped. See col. 3, lines 19-23. *Forrest* does not disclose an undoped substrate. Therefore, *Forrest* fails to disclose at least one limitation of claims 1 and 20.

Applicants agree with Examiner that *Forrest* does not disclose a GaAs substrate, as formerly recited in claims 1 and 20. See Office Action, page 3, line 8. Examiner cites *Razeghi* as disclosing a GaAs substrate. See Office Action, page 3, lines 9-13.

Razeghi discloses an infrared photodetector that includes a substrate on which active layers and contact layers are grown. See Abstract. *Razeghi* discloses different types of substrates, including GaAs. See col. 3, lines 61-63. Applicants do not agree with the Examiner that one of ordinary skill in the art would modify *Forrest* to include the teachings of *Razeghi*. In addition, Applicants point out that the substrate in *Razeghi*, like the substrate in *Forrest*, is doped.

Therefore, *Razeghi* fails to cure the deficiencies of *Forrest* pointed out by Applicants. Thus, *Forrest* in view of *Razeghi* fails to disclose at least one limitation of claims 1 and 20. Consequently, claims 1 and 20 are not rendered obvious by *Forrest* in view of *Razeghi* for at least the reasons set forth above. Applicants therefore respectfully request that the Examiner withdraw the rejections of claims 1 and 20 under 35 U.S.C. § 103.

Claim 2-8 and 10 depend from claim 1. Claims 21-27 depend from claim 20. Because dependent claims include the limitations of the claims from which they depend, Applicants submit that claims 2-8 and 21-27 are not rendered obvious by *Forrest* in view of *Razeghi* for at least the reasons set forth above. Applicants therefore respectfully request that the Examiner withdraw the rejections of claims 2-8 and 21-27 under 35 U.S.C. § 103.

Rejections of Claims 9 and 11-16 based on *Forrest*, *Razeghi* and *Bottka*

Claims 9 and 11-16 were rejected under 35 U.S.C. § 103 as being unpatentable over *Forrest* in view of *Razeghi*, and further in view of U.S. Patent No. 4,218,143 issued to Bottka (*Bottka*). For at least the reasons set forth below, Applicants submit that claims 9 and 11-16 are not rendered obvious by *Forrest* in view of *Razeghi* and *Bottka*.

Claim 11 recites the following:

providing an undoped substrate, wherein the substrate comprises a first surface and a second surface ...

As explained above, *Forrest* in view of *Razeghi* fails to disclose an undoped substrate. Applicants agree with Examiner that *Forrest* in view of *Razeghi* also fails to disclose “the use of a reflective layer disposed such that the substrate is in between the detector and the reflective layer.” See Office Action, page 5, lines 15-17. Examiner cites *Bottka* as disclosing such a reflective layer. See Office Action, page 5, lines 17-21.

Examiner does not contend that *Bottka* discloses an undoped substrate. Applicants do not concede that Examiner’s interpretation of *Bottka* is correct, and Applicants do not concede that one of ordinary skill in the art would modify *Forrest* and *Razeghi* to include the teachings of *Bottka*. However, regardless of whether Examiner is correct regarding *Bottka*, *Bottka* fails to cure the deficiencies of *Forrest* and *Razeghi* pointed out by Applicants.

Thus, *Forrest* in view of *Razeghi* and *Bottka* fails to disclose at least one limitation of claims 1 and 11. Consequently, claims 1 and 11 are not rendered obvious by *Forrest* in view of *Razeghi* and *Bottka* for at least the reasons set forth above. Applicants therefore respectfully request that the Examiner withdraw the rejections of claim 11 under 35 U.S.C. § 103.

Claim 9 depends from claim 1. Claims 12-16 depend from claim 11. Because dependent claims include the limitations of the claims from which they depend, Applicants submit that claims 9 and 12-16 are not rendered obvious by *Forrest* in view of *Razeghi* and *Bottka* for at least the reasons set forth above. Applicants therefore respectfully request that the Examiner withdraw the rejections of claims 9 and 12-16 under 35 U.S.C. § 103.

Allowable Subject Matter

Claims 28-33 have been objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

As explained above, *Forrest* in view of *Razeghi* fails to disclose the limitations of claim 20. Claims 28-33 depend from claim 20. Therefore, Applicants submit that although not rewritten in independent form to include all of the limitations of the base claim and any intervening claims, claims 28-33 are in condition for allowance.

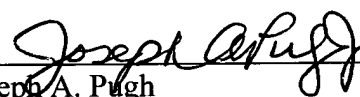
/ / / / / / / / / / /

CONCLUSION

For at least the foregoing reasons, Applicants submit that the rejections have been overcome. Therefore, claims 1-33 are in condition for allowance and such action is respectfully solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application.

Respectfully submitted,

Dated: March 1, 2006



Joseph A. Pugh
Reg. No. 52,137

TriQuint Semiconductor, Inc.
2300 NE Brookwood Parkway
Hillsboro, OR 97124
(503) 615-9616